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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/449,435	11/24/1999	PAUL FREDERICK KOEPPE	05770-092001	6281

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EXAMINER

RIOS CUEVAS, ROBERTO JOSE

ART UNIT PAPER NUMBER

2836

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicant(s) N .

09/449,435

Examiner

Roberto J Rios

Applicant(s)

KOEPPE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-9,11-15,17-20 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,11-15,17-20 and 23-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the plurality of voltage recovery devices connected in shunt to the distribution network" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claims 5 and 11 are objected to because of the following informalities:

Claims 5 and 11 recite the inverter coupled to the utility power network. Applicant is suggested to amend to claim to recite the inverter coupled to the distribution line network. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5, 6, 8, 9, 11, 14 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al (US patent 5,514,915).

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As per claims 1 and 9, Kim et al (herein after Kim) teach a method for stabilizing and a voltage recovery device (20) for connection to a utility power network including a transmission line which carries a nominal voltage and a distribution line network connected to the transmission line network, the distribution line network carrying a distribution voltage less than the nominal voltage on the transmission line network, the voltage recovery device comprising an energy storage unit (28) connected in shunt to the distribution line network (Figure 1; abstract) and configured to transfer real and reactive power between the utility power network and voltage recovery device at a level and for a duration to recover the voltage on the utility power network to within a predetermined proportion of the nominal voltage, following a fault condition detected on the utility power network (col. 6, line 61).

As per claim 2, Kim teaches the voltage recovery device being configured to transfer a combination of real and reactive power (col. 4, line 55).

As per claims 5 and 11, Kim teaches an inverter (44) electrically coupled between the energy storage unit and the distribution line network; and a controller (38) connected to the inverter and configured to control the amount of real and reactive power transferred between the energy storage unit and utility power network.

As per claims 6 and 14, Kim teaches the energy storage unit including a superconducting magnet (28).

As per claim 8, Kim teaches a magnet interface (34) connected between the energy storage unit and the inverter.

As claim 17-20 Kim teaches a voltage recovery device comprising a superconducting magnet. Moreover, superconducting magnets inherently provide real power for a finite predetermined period of time.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 7, 12, 13, 15 and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim.

As per claims 4, 12 and 13, Kim teaches providing real and reactive power to the distribution system to recover the voltage on the utility network but does not specifically disclose a particular recovery time and voltage threshold. However, the Examiner takes official notice as admitted by applicant that to recover the line voltage to within 0.9 P.U. of the nominal voltage is a well-accepted industry standard. Thus, one of ordinary skill in the art at the time of invention was made would have been motivated to modify Kim's teachings as a matter of design choice such that the line voltage is recovered to within 0.9 P.U. within 0.5 seconds for the purpose of complying with well-accepted industry standards.

As per claims 7 and 15, Kim teaches the recovery device including a superconducting magnet but does not specifically disclose the energy storage unit selected from the claimed group. However, the Examiner takes official notice that

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flywheels, batteries, capacitive banks, fuel cells, compressed gas sources and superconducting magnet energy storage units are equivalent energy storage units well-known in the power compensating art. Thus, one of ordinary skill in the art at the time of invention was made would have been motivated to modify Kim's teachings as a matter of design choice such that a particular energy storage unit from the claimed group is selected since they are well-known energy storage equivalent means.

As per claims 23 and 24, Kim teaches the claimed voltage recovery device electrically coupled to the distribution network but does not specifically disclose coupling a plurality of said recovery devices. However, the Examiner takes official notice that it is well known in the power regulation art to provide multiple voltage/power/energy recovery devices through out an entire utility power network. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Kim such that a plurality of voltage recovery devices are coupled for the purpose of increasing the system's protection capability and compensating power capacity.

As per claim 25, Kim teaches the voltage recovery device being configured to transfer a combination of real and reactive power (col. 4, line 55).

As per claim 26, Kim teaches providing real and reactive power to the distribution system to recover the voltage on the utility network but does not specifically disclose a particular recovery time and voltage threshold. However, the Examiner takes official notice as admitted by applicant that to recover the line voltage to within 0.9 P.U. of the nominal voltage is a well-accepted industry standard. Thus, one of ordinary skill in the

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art at the time of invention was made would have been motivated to modify Kim's teachings as a matter of design choice such that the line voltage is recovered to within 0.9 P.U. within 0.5 seconds for the purpose of complying with well-accepted industry standards.

As per claim 27, Kim teaches an inverter (44) electrically coupled between the energy storage unit and the distribution line network; and a controller (38) connected to the inverter and configured to control the amount of real and reactive power transferred between the energy storage unit and utility power network.

As per claim 28, Kim teaches the energy storage unit including a superconducting magnet (28).


7. Art of general nature has been cited for applicant's review.

***Response to Arguments***

8. Applicant's arguments with respect to the remaining claims have been considered but are moot in view of the new ground(s) of rejection.

### Communication with PTO

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rios whose telephone number is (703) 306-5518. In the event that Examiner Rios cannot be reached, his supervisor, Brian Sircus may be contacted at (703) 308-3119. The fax number for Before-Final communications is (703) 872-9318, for After-Final communications is (703) 872-9319, and for Customer Service is (703) 872-9317.



GREGORY J. TOATLEY, JR.  
PRIMARY EXAMINER

Roberto J. Rios  
Patent Examiner